The Triumph of Nominalism:
The End of Essentialism and LLMs as Mirrors of Names

Peter Ayolov

2026

Abstract

This article argues that the rapid development of artificial intelligence has transformed nominalism from a long-standing philosophical position into the dominant operational logic of the digital age. Beginning with the medieval Problem of Universals, it traces the historical evolution of nominalism from Roscellinus and William of Ockham through early modern empiricism and twentieth-century philosophy to contemporary theories of language, cognition and artificial intelligence. The article examines how thinkers such as Thomas Hobbes, John Locke, W. V. O. Quine, Nelson Goodman, Hartry Field, Jody Azzouni, Richard Rorty, B. F. Skinner, Cormac McCarthy and Elan Barenholtz progressively dismantled realist assumptions concerning universals, essences and fixed meanings. It also offers a comparative analysis of the Dao De Jing as an independent tradition of radical linguistic nominalism, contrasting Daoist scepticism towards naming with the Western philosophical debate over universals. Particular attention is given to the emergence of Large Language Models, arguing that they constitute the first large-scale technological demonstration that language can function without reference to objective essences or metaphysical universals. Rather than discovering hidden meanings, artificial intelligence operates through statistical relationships among linguistic tokens, revealing language as a self-organising symbolic system. Building upon Peter Ayolov's theories of the Planned Obsolescence of Language and The New Paradigm of Communication, the article further argues that digital platforms transform words into temporary behavioural instruments optimised for prediction, engagement and algorithmic influence. The study concludes that while artificial intelligence has produced an unprecedented practical victory for nominalism, the ethical, legal and political challenges of the AI era simultaneously generate renewed demands for objective truth, stable values and realism. The future of human civilisation may therefore be characterised by an enduring philosophical duality in which increasingly nominalist machines coexist with societies that continue to seek realist foundations for knowledge, morality and collective life.

Keywords

Nominalism; philosophical realism; universals; William of Ockham; Plato; Dao De Jing; Laozi; Cormac McCarthy; The Kekulé Problem; Elan Barenholtz; Large Language Models; artificial intelligence; language; philosophy of language; cognitive science; B. F. Skinner; Hartry Field; W. V. O. Quine; Peter Ayolov; Planned Obsolescence of Language; New Paradigm of Communication; digital communication; media theory; semantics; AI ethics; communication theory.

Introduction: Genealogy of Nominalism

What is nominalism, and why does it matter today? More importantly, why has a philosophical position that concerns virtually every word we utter, every concept we employ, every scientific theory we construct, and perhaps even our very sense of self largely disappeared from public discussion? Few philosophical traditions have shaped Western thought as profoundly while remaining so invisible. The debate over nominalism is often presented as a technical medieval dispute about universals, confined to the pages of scholastic philosophy. Yet this description obscures its true significance. Nominalism is not merely one doctrine among many; it is a fundamental way of understanding the relationship between language and reality. Every time we classify, describe, define, argue, legislate, communicate, or think, we implicitly assume some position on whether general concepts correspond to real entities or whether they are simply names that human beings invent in order to organise experience. In this sense, almost every discipline concerned with language—from philosophy, linguistics and logic to law, psychology, economics, neuroscience, artificial intelligence and computer science—rests upon assumptions that are ultimately nominalist or anti-nominalist. Even our notions of consciousness, identity, ego, personhood and society depend upon concepts whose ontological status cannot be separated from this ancient controversy. As John Stuart Mill famously observed, there is "nothing general except names," a formulation that captures one of the central intuitions of nominalism.

Ironically, even the history of the word nominalism reflects the very historical contingency that nominalists themselves would emphasise. Modern scholarship has increasingly questioned whether it is even appropriate to speak of a coherent "school of nominalism" in the fourteenth century. Although William of Ockham, John Buridan, Marsilius of Inghen and other late medieval thinkers are commonly described as nominalists, the category itself was not yet fully established during their lifetimes. The opposition between *nominalism* and *realism*, together with the famous distinction between the *via moderna* and the *via antiqua*, only gradually emerged during the late fourteenth and especially the fifteenth century before becoming the dominant framework through which medieval philosophy was retrospectively interpreted. Contemporary historians of philosophy have therefore questioned whether the traditional narrative, which portrays fourteenth-century scholasticism as a clear confrontation between two organised philosophical camps, accurately reflects the historical evidence. Rather than a unified movement, the thinkers later grouped under the label "nominalists" often differed substantially in their methods, metaphysical commitments and theories of language. The genealogy of nominalism therefore begins not simply with a doctrine but with the gradual invention of a philosophical category whose own historical formation deserves as much attention as the ideas it eventually came to represent.

This historical ambiguity is itself philosophically revealing. If the very name nominalism has a genealogy, then the history of nominalism cannot be reduced to a succession of philosophers defending a fixed doctrine. It is also the history of changing classifications, intellectual traditions and retrospective interpretations through which later generations organised the past into coherent philosophical schools. This article therefore treats nominalism not merely as a medieval doctrine concerning universals but as a long historical transformation in the understanding of language itself. Its genealogy extends far beyond scholasticism, reaching into Renaissance humanism, early modern empiricism, the scientific revolution, analytic philosophy, structural linguistics and, ultimately, contemporary artificial intelligence. In this

broader perspective, nominalism is less a closed philosophical system than an evolving intellectual orientation whose influence has gradually spread across virtually every field concerned with language, cognition and representation.

The irony is that nominalism appears to have become so successful that it has almost vanished as an explicit philosophical topic. It no longer announces itself because it has quietly become embedded within the assumptions of modern science, analytic philosophy, computational linguistics and digital technology. Nowhere is this transformation more striking than in the emergence of large language models. These systems neither discover Platonic Forms nor uncover hidden essences; they operate through statistical relationships among linguistic signs, recognising patterns between words without appealing to universal entities existing independently of language. They are, in a profound philosophical sense, mirrors of names. Their astonishing success raises an ancient question in an entirely new form: if machines can generate coherent thought by manipulating linguistic relations alone, what becomes of the traditional belief that words derive their meaning from timeless essences rather than from their use, their differences and their relations to other words? The age of artificial intelligence has unexpectedly revived one of the oldest metaphysical disputes in Western philosophy, transforming it from an abstract scholastic controversy into one of the defining philosophical questions of the twenty-first century.

This article argues that we have entered the final stage in the long genealogy of nominalism. Beginning with the ancient debates over universals, continuing through Roscellinus, Abelard, Ockham, Buridan and their successors, extending into Hobbes, Locke, Hume, the rise of modern science, analytic philosophy, structuralism and computational linguistics, nominalism has gradually reshaped the Western understanding of reality. What once appeared to be a minority metaphysical position has become the implicit ontology of the digital age. The rise of artificial intelligence does not merely coincide with the triumph of nominalism; it provides its most compelling demonstration. Large language models reveal that language can produce meaning, coherence and apparently intelligent reasoning without presupposing universal essences existing beyond linguistic practice itself. Whether this represents the definitive victory of nominalism or the beginning of a new philosophical synthesis remains an open question. To answer it, we must reconstruct the genealogy of nominalism from its ancient origins to its unexpected culmination in the age of artificial intelligence, where language has finally become capable of reflecting itself through machines that know nothing but names.

Part 1: What Does It Mean to Be a Nominalist Today?

To be a nominalist in the twenty-first century is no longer simply to adopt one position within an ancient metaphysical debate concerning universals. It is to embrace an entire worldview about the nature of language, reality and knowledge. A contemporary nominalist argues that abstract concepts, universals and even mathematical entities do not possess an independent existence outside the human mind. They are neither hidden structures of the universe nor eternal realities waiting to be discovered. Instead, they are names, labels and conceptual instruments created by human beings in order to classify the countless individual objects and events encountered in experience. Reality itself consists only of concrete particulars existing in space and time. There is no independent entity called "humanity" beyond individual human beings, no separate essence of "beauty" existing beyond beautiful objects, and no transcendent form of "justice" beyond the countless historical practices through which societies define and redefine

the term. The philosophical roots of this position stretch back through medieval thought, yet its implications have become more relevant than ever in an age increasingly dominated by information technologies and artificial intelligence.

The modern nominalist therefore adopts several interconnected philosophical commitments. The first is the rejection of universals as independently existing entities. Concepts such as redness, intelligence, democracy or morality are understood as linguistic categories rather than metaphysical realities. Only particular red apples, individual intelligent persons, specific democratic institutions and concrete moral actions actually exist. The second commitment follows the methodological principle traditionally associated with William of Ockham. Ockham's Razor proposes that explanations should not multiply entities beyond necessity. If the observable world can be explained entirely through particular objects and their relations, then philosophy has no justification for introducing invisible realms populated by abstract essences or eternal forms. This principle has become one of the defining methodological assumptions of modern science, where theoretical economy is generally preferred over metaphysical excess.

The same perspective extends naturally into mathematics. From a nominalist viewpoint, numbers are not mysterious objects inhabiting a Platonic universe beyond space and time. They are among humanity's most successful intellectual inventions, extraordinarily useful symbolic tools for measuring, counting and modelling the physical world, yet without an independent ontological existence. Mathematical language functions because it provides efficient methods for describing relationships between concrete things rather than revealing an autonomous mathematical reality. Similar considerations increasingly influence contemporary philosophy of science, where many thinkers prefer explanations grounded in observable processes instead of metaphysical abstractions.

Contemporary philosophy reflects this renewed relevance of nominalism. Surveys of professional philosophers indicate that nominalist and realist positions remain remarkably close in support, suggesting that the ancient controversy over universals has by no means been resolved. Yet today's nominalism often appears under different names and within different intellectual traditions. It frequently accompanies scientific materialism and physicalism, according to which only entities existing in space and time and capable of causal interaction deserve ontological commitment. If something cannot in principle be measured, located, observed or experimentally investigated, many contemporary philosophers regard its existence with considerable scepticism. At the same time, twentieth-century thinkers such as W. V. O. Quine reinforced the nominalist tendency by treating language not as a transparent mirror of eternal truths but as an adaptive instrument developed for practical survival, scientific inquiry and communication. Likewise, anti-essentialist approaches in philosophy, sociology and cultural theory reject the assumption that fixed human natures or permanent social categories exist independently of historical and linguistic practices. Categories are increasingly understood as products of human classification rather than discoveries of nature itself.

Living as a nominalist therefore transforms one's understanding of meaning, ethics and political life. Meaning is not discovered but constructed. The universe contains no pre-written message waiting to be deciphered; rather, human beings continuously create conceptual frameworks through which experience becomes intelligible. From this perspective, abstract notions such as justice, freedom, democracy, truth or the state acquire no authority merely because they exist

as words. They possess only the meanings assigned to them within particular historical, political and linguistic contexts. Consequently, the nominalist develops a profound scepticism toward grand narratives and universal ideological claims. Whenever institutions invoke abstract concepts to justify power, authority or social control, the nominalist asks whether these concepts correspond to any independent reality or merely function as persuasive linguistic labels employed to organise behaviour.

This contemporary understanding of nominalism also provides the philosophical foundation of my own work on language, communication and digital media. Rather than approaching nominalism primarily as a medieval solution to the problem of universals, I apply its central intuition to the contemporary information environment. Throughout The Miscommunication Trilogy, The Conspiracy of Speech and my broader theory of the Planned Obsolescence of Language, words are analysed not as stable containers of eternal meanings but as strategic instruments whose meanings continually shift according to changing relations of power, technology and communication. Terms such as freedom, democracy, justice, truth or misinformation no longer function as objective descriptions of reality but as flexible labels deployed by competing institutions, corporations, governments and digital platforms in order to shape public perception and behaviour. Language itself becomes a dynamic field of strategic interaction rather than a neutral representation of an independently existing world.

This perspective also leads to a critique of what may be called the myth of perfect language. Against the assumption that language faithfully reflects reality through fixed meanings, contemporary communication reveals an entirely different picture. Meanings decay, mutate and proliferate according to technological infrastructures, economic incentives and algorithmic optimisation. My theory of the Planned Obsolescence of Language argues that digital communication systematically produces, exhausts and replaces meanings at accelerating speed because perpetual semantic instability generates engagement, attention and ultimately economic value. Under conditions of Propaganda 2.0, language no longer aims primarily to describe reality but increasingly functions as a behavioural technology designed to maximise emotional response, visibility and algorithmic circulation. Once the illusion of universal essences is abandoned, language appears as an endlessly evolving system of names whose principal function is not representation but influence.

The emergence of large language models provides perhaps the strongest confirmation of this nominalist understanding ever produced. These systems neither discover Platonic Forms nor identify hidden essences underlying language. They operate exclusively by modelling relationships among words, predicting one linguistic sign from countless previous linguistic signs. They know nothing beyond names and their statistical relations, yet they produce outputs that humans routinely interpret as meaningful reasoning. Artificial intelligence therefore offers an unprecedented philosophical experiment. It demonstrates that remarkably sophisticated communication can emerge without any appeal to universal essences existing beyond language itself. In this sense, the age of AI represents not merely another technological revolution but perhaps the most powerful historical vindication of nominalism since the medieval debates first questioned whether universals existed at all. It is precisely because language consists fundamentally of names and relations rather than eternal essences that large language models are possible, transforming nominalism from an ancient metaphysical position into one of the defining philosophical frameworks of the twenty-first century.

Part 2: From Medieval Universals to Artificial Intelligence: A Short History of the Nominalist Movement

The history of nominalism is usually presented as a specialised chapter in medieval scholastic philosophy, yet it is better understood as one of the longest intellectual revolutions in Western thought. At its core lies a deceptively simple question known as the Problem of Universals: do general concepts correspond to realities existing independently of individual things, or are they merely names created by human beings? From this single question emerged three competing philosophical traditions that have shaped more than two thousand years of metaphysics, epistemology and linguistics. Platonic realism maintained that universals possess an objective existence independent of particular objects and inhabit a realm of eternal Forms. Conceptualism attempted to reconcile realism and nominalism by arguing that universals exist only as concepts within the human mind, possessing psychological but not independent metaphysical reality. Nominalism, by contrast, denied that universals exist at all. According to the nominalist, only individual objects exist in reality, while general concepts are nothing more than linguistic labels employed to organise experience and facilitate communication. Although these three positions continue to define contemporary debates, the nominalist alternative has gradually expanded far beyond medieval metaphysics, influencing modern science, philosophy, psychology, linguistics and, ultimately, artificial intelligence.

The earliest recognisable nominalist tendencies emerged during the eleventh century with thinkers such as Roscellinus, who famously described universals as nothing more than flatus vocis, mere breaths of the voice. General terms such as humanity, justice or goodness referred to no independent entities beyond the sounds produced in speech. This radical position reached its most influential formulation during the fourteenth century in the philosophy of William of Ockham. Ockham argued that reality consists exclusively of individual concrete beings and that philosophy should avoid introducing unnecessary metaphysical entities whose existence cannot be demonstrated. His famous methodological principle, later known as Ockham's Razor, transformed nominalism from a theological position into a general principle of intellectual economy. If individual objects are sufficient to explain experience, there is no need to populate reality with invisible universals, abstract essences or metaphysical forms. Ockham's argument profoundly altered the direction of Western philosophy by replacing metaphysical abundance with ontological restraint, a methodological preference that continues to shape scientific reasoning today.

Nominalism experienced a powerful revival during the seventeenth and eighteenth centuries as the scientific revolution displaced medieval scholasticism. Philosophers such as Thomas Hobbes and John Locke argued that nature presents us only with individual objects, while general categories arise through human acts of classification. Language became increasingly understood as a practical invention rather than a mirror reflecting eternal truths. General terms existed because human cognition required efficient methods for organising experience, not because nature itself was divided according to universal essences. This transition proved decisive for modern empiricism, natural science and political philosophy, gradually replacing metaphysical speculation with observation, measurement and analysis. Reality became increasingly identified with what could be individually perceived, experimentally investigated and causally explained.

The twentieth century shifted the debate into entirely new intellectual territories. Instead of concentrating primarily on medieval metaphysics, philosophers increasingly addressed nominalist questions through formal logic, mathematics, semantics and the philosophy of science. W. V. O. Quine challenged traditional assumptions concerning abstract entities and insisted that ontology should remain as economical as scientific explanation permits. Rudolf Carnap treated many philosophical disputes as questions concerning linguistic frameworks rather than hidden metaphysical realities, while Nelson Goodman developed an influential programme in which systems of classification became human constructions rather than discoveries of objective structures already embedded within the universe. Across these different approaches runs a common intuition: theories, concepts and classifications are pragmatic instruments through which human beings organise experience rather than transparent windows onto timeless cosmic truths.

Today nominalism has become one of the most influential, although often unacknowledged, orientations within philosophy of language, philosophy of mathematics, media theory and cognitive science. Hartry Field, for example, has become one of the leading defenders of mathematical fictionalism. In Science Without Numbers he argues that mathematics remains indispensable for scientific practice while denying that numbers themselves possess independent existence. Mathematical entities function as extraordinarily successful theoretical instruments without requiring ontological commitment to abstract objects. Jody Azzouni develops a related position through what he calls deflationary nominalism. Scientific discourse may refer to numbers, sets and properties without obliging philosophers to believe that such entities literally exist. Reference does not automatically imply ontology. Richard Rorty extended nominalist intuitions into social and political philosophy by rejecting the idea that truth exists independently waiting to be discovered. Truth becomes the name societies assign to beliefs that successfully organise collective life rather than correspondence with eternal realities existing beyond human practices.

Within this broader intellectual landscape, my own work represents an attempt to extend nominalism into the contemporary ecology of communication, digital media and artificial intelligence. The Miscommunication Trilogy, The New Paradigm of Communication and the theory of the Planned Obsolescence of Language begin from the nominalist insight that words possess no fixed or universal meanings. Instead, concepts operate as temporary strategic labels whose significance continuously changes according to technological infrastructures, institutional interests and algorithmic systems. Words such as democracy, freedom, justice, misinformation or hate speech function less as stable descriptions of reality than as adaptive instruments through which competing actors organise perception and influence behaviour. Digital platforms accelerate this process by constantly generating, exhausting and replacing meanings according to economic incentives based upon attention, emotional engagement and behavioural prediction. Language therefore becomes an evolving network of disposable conceptual tools rather than a repository of permanent truths.

Nominalist tendencies also appear far beyond philosophy itself. B. F. Skinner, although trained as a psychologist, developed one of the most consistently nominalist approaches to human behaviour. His programme of Radical Behaviorism rejected invisible mental entities such as mind, ego, willpower or innate desires as explanatory principles. These abstractions were, in his view, unnecessary labels disguising the concrete relations between organisms and their environments. Psychology should concern itself exclusively with observable behaviour,

measurable stimuli and identifiable consequences. In Verbal Behavior, Skinner extended this position directly into language, arguing that words do not express hidden meanings residing inside the mind but function as learned patterns of behaviour shaped through reinforcement. Language becomes an instrument for acting upon the world rather than a mirror reflecting abstract ideas. By systematically applying Ockham's methodological economy to psychology, Skinner demonstrated how nominalist principles could transform an entire scientific discipline.

The emergence of artificial intelligence marks the latest and perhaps most significant chapter in this long historical development. Large language models do not manipulate Platonic Forms, universal essences or hidden conceptual structures. They process statistical relationships among words, generating coherent language through patterns learned from enormous linguistic corpora. They neither require nor presuppose independently existing universals in order to produce meaningful discourse. In doing so, they provide an unprecedented technological demonstration of the nominalist hypothesis that language functions through relations among names rather than through direct access to eternal essences. What began nearly a thousand years ago as a scholastic dispute concerning universals has therefore become one of the defining philosophical questions of the age of artificial intelligence. The genealogy of nominalism is no longer merely the history of a medieval doctrine; it is increasingly becoming the intellectual history of the digital civilisation itself.

Part 3: Daoism and the Philosophy of Names: The Eastern Genealogy of Nominalism

The history of nominalism is usually written as an exclusively Western philosophical development beginning with Greek metaphysics and culminating in medieval scholasticism. Yet one of the most remarkable critiques of language and abstraction appeared independently in ancient China centuries before William of Ockham. Although the Dao De Jing does not formulate nominalism in the technical metaphysical language of medieval Europe, it develops what may be described as a radical linguistic nominalism. Whereas Western nominalism originally emerged from debates concerning universals, theology and logic, Laozi employs an equally profound critique of language for entirely different purposes: spiritual liberation, political harmony and psychological tranquillity. Nevertheless, both traditions converge upon one revolutionary insight. Human language does not transparently reveal reality but actively constructs the conceptual world through which reality is perceived. In this respect, Daoism anticipates many of the central assumptions of contemporary philosophy of language and, remarkably, the operation of modern large language models.

The Dao De Jing begins by questioning the very possibility that language can capture reality. Its opening sentence is perhaps the most radical philosophical statement ever made about naming: "The Dao that can be spoken is not the eternal Dao. The name that can be named is not the eternal name." This declaration immediately undermines every attempt to identify words with ultimate reality. Names are not reality itself but provisional human constructions imposed upon an infinitely more complex and continuous world. Before names there exists only the nameless, an undivided and dynamic totality that precedes all conceptual distinctions. Naming does not simply describe this world; it divides it. The Dao De Jing therefore distinguishes between the nameless origin of Heaven and Earth and the named world of the "ten thousand things." The latter is not false in the ordinary sense but is nevertheless a human construction produced by linguistic classification. A tree appears to be an independent object only because language isolates it from the soil, the atmosphere, the surrounding vegetation, sunlight and

countless ecological relationships that together constitute its existence. Language transforms continuous processes into separate things.

This insight closely parallels the central intuition of nominalism. Western nominalists deny that universals such as beauty, justice or humanity possess independent existence beyond particular objects. Laozi reaches a remarkably similar conclusion through a different philosophical path. Chapter Two of the Dao De Jing demonstrates that values such as beauty and ugliness, goodness and evil, long and short, difficult and easy arise only through mutual comparison and linguistic differentiation. Human beings do not discover these distinctions already existing within nature; they produce them by naming, contrasting and categorising experience. Once one object is called beautiful, another immediately becomes ugly. Once one action is named good, another acquires the label evil. Language therefore generates the appearance of stable oppositions that the continuous movement of the Dao itself does not contain. Reality is transformed into a world of conceptual contrasts whose apparent solidity depends entirely upon naming.

Yet despite these profound similarities, Daoist and Western nominalism ultimately diverge concerning the nature of reality itself. Classical Western nominalism generally concludes that only individual concrete particulars exist. Reality consists exclusively of specific physical objects and events, while universals are discarded as unnecessary abstractions. The Dao De Jing reaches a different destination. It rejects the independent existence of conceptual categories but simultaneously affirms the existence of the Dao itself, an underlying, unified, organic and ultimately ineffable process that cannot be adequately represented through language. Thus, whereas Ockham employs philosophical economy to eliminate unnecessary metaphysical entities, Laozi employs linguistic scepticism in order to return human consciousness to direct participation within an undivided reality that forever escapes conceptual definition. The difference is therefore profound. Western nominalism remains fundamentally analytical and ontological, while Daoist nominalism is existential and experiential. One attempts to construct more accurate philosophical explanations of the world; the other attempts to dissolve the conceptual barriers separating human consciousness from the spontaneous movement of existence.

This distinction becomes especially visible when Daoism is contrasted with Confucianism. Confucian philosophy developed the influential doctrine of Zhengming, commonly translated as the Rectification of Names. According to Confucius, social disorder arises because individuals fail to fulfil the objective meanings attached to their social roles. A ruler should behave as a ruler, a father as a father and a son as a son. Language therefore possesses normative force because names embody stable moral obligations that society must preserve. In many respects, Confucianism represents a form of linguistic realism. Words correspond to objective social realities and ethical duties that exist independently of individual preference. Laozi rejects precisely this assumption. Attempts to freeze society into fixed linguistic categories inevitably generate artificial behaviour, hypocrisy and conflict. The more rigidly society insists upon preserving official names and classifications, the further it moves from the spontaneous harmony of the Dao. Genuine order emerges not through increasingly precise definitions but through decreasing dependence upon conceptual distinctions altogether.

These ancient philosophical disagreements have acquired extraordinary contemporary significance in the age of artificial intelligence. Large language models process language almost exactly as both nominalism and Daoism would predict. They do not manipulate eternal

meanings hidden behind words, nor do they consult universal essences existing independently of language itself. Instead, they operate through relations among names, learning statistical regularities within immense networks of linguistic associations. Meaning emerges not because words correspond to transcendent realities but because they occupy positions within an endlessly interconnected web of other words. In this respect, artificial intelligence unexpectedly confirms one of the oldest insights shared by both traditions: language is fundamentally relational rather than essential. The machine knows only names and their connections, yet it generates coherent discourse that humans experience as meaningful thought.

The comparison between Daoism and nominalism therefore extends far beyond historical curiosity. Together they reveal two complementary responses to the same philosophical discovery. Both recognise that names do not possess intrinsic or eternal meanings. Both expose the human tendency to mistake linguistic classifications for reality itself. Yet where the Western nominalist seeks conceptual economy and scientific explanation, the Daoist seeks silence, spontaneity and direct experience beyond language. Today, the emergence of artificial intelligence introduces a third possibility. Large language models neither believe in Platonic universals nor contemplate the ineffable Dao. They simply manipulate names. Their astonishing success suggests that much of what humans call intelligence may itself depend less upon access to hidden essences than upon the extraordinarily complex organisation of linguistic relations. If this is correct, then both medieval nominalists and ancient Daoists anticipated, in radically different ways, one of the defining philosophical discoveries of the twenty-first century: language is not a window through which we perceive reality but a system of names through which reality is continuously organised, interpreted and reinvented.

Part 5: The Defeat of Realism: How the Church Lost the War of Universals

The history of nominalism is inseparable from the history of its greatest opponent: philosophical realism. For more than two thousand years, Western philosophy was dominated by the conviction that universals, essences and abstract concepts possess an objective existence independent of individual human beings. The great irony of intellectual history is that this position eventually became so deeply embedded within theology, metaphysics and political authority that it came to appear self-evident. Yet from the perspective of the twenty-first century, realism increasingly resembles one of the most successful intellectual fictions ever created. It transformed local classifications into universal truths, temporary linguistic conventions into eternal realities and historically contingent concepts into cosmic necessities. The long triumph of nominalism has therefore been accompanied by the gradual collapse of realism's central assumptions. The question is no longer whether universals exist independently of language but how human beings repeatedly invent universals and subsequently forget that they invented them.

The strongest and most influential form of realism originated with Plato. According to Platonic realism, the physical world is not the highest level of reality but merely an imperfect copy of a higher realm populated by eternal Forms or Ideas. Beauty itself, Justice itself, Humanity itself and even mathematical objects possess a timeless existence independent of every particular beautiful object, just action or individual human being. A specific red apple is red because it participates in the eternal Form of Redness. A circle drawn on paper approximates the perfect Circle existing beyond space and time. Reality therefore exists twice: once as eternal universals and again as imperfect material copies. This vision shaped not only philosophy but also

Christian theology, where the invisible became more important than the visible and eternal realities were valued above temporal existence. The Platonic universe became the metaphysical architecture upon which much of medieval Christianity was constructed.

During the Middle Ages this metaphysical realism reached its most systematic expression through scholastic philosophy. Thinkers such as Anselm of Canterbury and William of Champeaux argued that universals existed before individual things because they already existed within the mind of God. Humanity existed before human beings. Justice existed before just actions. The universal was not produced by individuals; individuals merely participated in an already existing universal order established by divine reason. This doctrine provided an extraordinarily powerful philosophical foundation for ecclesiastical authority. If universals existed objectively, then theological doctrines, moral laws and social hierarchies could likewise claim objective and eternal legitimacy. The Church did not simply interpret divine truth; it became the institutional guardian of an independently existing metaphysical order. Language therefore acquired sacred authority because names corresponded to realities established by God rather than negotiated within history.

The emergence of nominalism threatened this entire intellectual system. When Roscellinus, Abelard and especially William of Ockham argued that universals were merely names rather than independently existing realities, they did far more than introduce a technical metaphysical disagreement. They attacked the philosophical foundations upon which medieval authority rested. If universals possessed no independent existence, then many of the concepts through which institutions exercised power became historically contingent human constructions rather than eternal necessities. The Church gradually recognised the revolutionary implications of this argument. Nominalism did not merely question abstract metaphysics; it undermined the possibility that any institution could legitimately claim privileged access to universal truths existing beyond human language. In retrospect, the conflict between realism and nominalism appears not simply as a philosophical debate but as one of the earliest intellectual struggles over the political consequences of language itself.

Attempts to rescue realism produced more moderate alternatives. Aristotle rejected Plato's separate world of Forms while nevertheless insisting that universals remained objectively real. According to Aristotelian realism, universal properties exist not before things but within things themselves. Humanity does not inhabit a transcendent realm but exists as the shared essence present in every individual human being. Thomas Aquinas incorporated this view into Christian theology, arguing that the human intellect discovers rather than invents these objective essences through abstraction. The category already exists within nature; thought merely recognises it. This position appears more empirical than Platonic realism, yet it preserves the same fundamental assumption that nature itself contains pre-existing conceptual boundaries waiting to be discovered. The nominalist rejects precisely this conclusion. Categories are not found but constructed. They arise because human beings classify the continuous complexity of reality into manageable conceptual units.

The Enlightenment preserved realism in another form through rationalist essentialism. René Descartes, Gottfried Wilhelm Leibniz and other rationalist philosophers argued that reality contains fixed, discoverable essences accessible through reason itself. Mathematical truths, logical principles and innate ideas were regarded as objective features of the universe rather than products of human conceptual organisation. Mathematics was understood as the language

in which reality itself is written. Essential properties defined what every object fundamentally is, independent of human interpretation. Yet subsequent developments in linguistics, anthropology, evolutionary biology and cognitive science have increasingly challenged this confidence. Human classifications vary dramatically across cultures, languages and historical periods. Concepts regarded as eternal in one civilisation appear entirely absent in another. Categories once believed to reflect nature increasingly reveal themselves as products of particular histories, institutions and linguistic traditions.

The greatest weakness of realism therefore lies not in its internal logical structure but in its historical provincialism. Every civilisation has believed that its own conceptual system reflected the natural order of the universe. Yet history repeatedly demonstrates that universals emerge locally before claiming universality. Religious concepts, political ideologies, moral systems, scientific taxonomies and legal categories all originate within specific communities under particular historical circumstances. Only later are they presented as timeless truths existing independently of the societies that produced them. What realism calls essence is often nothing more than historical success. Categories become invisible precisely because they become familiar. Human beings forget that someone first invented the very distinctions they now regard as natural.

This process is nowhere more evident than in language itself. Every language divides reality differently. Some distinguish between blue and green, while others employ a single word for both. Some possess dozens of kinship terms where others recognise only a few. Some organise time spatially, others cyclically. If universals genuinely existed as objective structures embedded within nature, one would expect languages to converge upon identical conceptual systems. Instead, linguistic diversity reveals an astonishing flexibility in how reality can be organised through naming. Language does not discover universal categories already present in the world; it creates locally useful systems of classification that later generations mistake for natural necessity.

Artificial intelligence has unexpectedly intensified this philosophical transformation. Large language models acquire concepts by analysing patterns within human language rather than by discovering independently existing essences. They reveal that categories emerge statistically through linguistic usage instead of reflecting hidden metaphysical realities. Meaning arises from relations among names rather than correspondence with eternal Forms. The success of these systems therefore weakens realism while providing unprecedented support for nominalism. The machine neither requires nor searches for universals. It learns classifications exactly as human cultures appear to have produced them: through repeated linguistic practice distributed across enormous populations over long periods of historical time.

The victory of nominalism therefore represents far more than the defeat of one philosophical doctrine by another. It signals the gradual recognition that universals are themselves historical inventions. Essences are rarely discovered; they are manufactured, stabilised, institutionalised and eventually naturalised until their origins disappear from collective memory. The Church lost the philosophical battle not because religion itself vanished but because the assumption that abstract concepts possess independent existence became increasingly difficult to sustain in the face of modern science, historical consciousness, linguistics and now artificial intelligence. What realism once presented as eternal truths increasingly appears as the accumulated sediment

of countless local acts of naming. The universal is revealed to be the successful provincial, and the essence becomes nothing more than yesterday's label that has forgotten it was once invented.

Part 6: Large Language Models as Mirrors of Names

The emergence of large language models may ultimately be remembered as one of the decisive philosophical events of the twenty-first century. Their significance extends far beyond computer science, artificial intelligence or engineering because they force philosophy to confront one of its oldest questions in an entirely new way. Do words derive their meanings from an objective reality existing independently of language, or does language generate meaning through its own internal relations? For centuries this question remained largely speculative, dividing realists from nominalists without any possibility of empirical demonstration. Large language models have unexpectedly transformed this ancient debate into a practical experiment. Their extraordinary linguistic competence suggests that coherent language, sophisticated reasoning and even apparently intelligent conversation can emerge without any direct access to universal essences or metaphysical realities. They function not as mirrors of the world but as mirrors of names. This simple observation may prove to be one of the strongest arguments ever produced in favour of nominalism.

Among the thinkers who have most clearly recognised the philosophical implications of this technological revolution is the cognitive scientist Elan Barenholtz. His work represents one of the most radical contemporary reformulations of linguistic nominalism. Rather than treating artificial intelligence as merely another computational achievement, Barenholtz argues that large language models reveal something fundamental about the nature of human language itself. According to his analysis, language is not grounded in hidden conceptual structures waiting to be discovered beneath words. Instead, it operates as an autonomous, self-organising symbolic system whose apparent meanings emerge entirely from relationships among linguistic signs. His famous observation that there is "no content at the address" challenges one of the oldest assumptions in Western philosophy. Words do not contain meanings stored somewhere inside them. Meaning is not a hidden substance concealed behind language. Instead, it emerges dynamically from patterns of relationships distributed across an immense network of other words. The consequence is profoundly nominalist. Language possesses no intrinsic connection to eternal essences because there are no essences waiting behind the names.

This position directly undermines the central intuition of philosophical realism. Throughout most of Western intellectual history, language was understood as a medium connecting human thought to objective structures existing independently of linguistic practice. Words referred to concepts because concepts corresponded to realities already present within nature or within the mind of God. Barenholtz rejects this assumption completely. Language resembles an immense mathematical network whose elements derive significance exclusively from their positions within the system itself. Every word acquires meaning through statistical relations with countless other words rather than through direct contact with external reality. Medieval nominalists described universals as mere flatus vocis, breaths of the voice. Barenholtz updates this insight for the computational age by demonstrating that language functions as an extraordinarily sophisticated geometry of symbols whose internal organisation is sufficient to generate the appearance of semantic understanding.

The implications extend beyond semantics into the nature of categorisation itself. One of the oldest philosophical questions asks whether categories such as tree, bird, justice or intelligence

exist objectively in nature or whether they are products of human classification. Realists maintain that language discovers distinctions already embedded within reality. Nominalists argue that language constructs these distinctions. Barenholtz adopts one of the strongest versions of the latter position. He questions whether the human brain naturally performs categorisation independently of language at all. The world itself presents continuous processes rather than sharply bounded objects. Rivers gradually become seas. Mountains slowly merge into valleys. Colours dissolve continuously into neighbouring colours without natural boundaries. It is language that imposes conceptual divisions upon this fluid continuum, creating the stable categories through which human beings organise experience. Nature contains no labels. Labels belong entirely to language.

Perhaps Barenholtz's most provocative contribution concerns what artificial intelligence reveals about human cognition itself. Critics frequently argue that large language models cannot genuinely understand because they remain "ungrounded." Unlike human beings, they possess no bodies, sensory organs or direct experience of the physical world. They process text without touching objects, seeing landscapes or interacting physically with reality. According to this criticism, genuine meaning requires embodiment. Barenholtz reverses the argument completely. Instead of viewing artificial intelligence as deficient, he suggests that human language itself functions in remarkably similar ways. The human linguistic faculty behaves like an autoregressive prediction system continuously generating the next linguistic token from previous statistical patterns. The difference between biological and artificial intelligence becomes one of substrate rather than principle. Humans operate through biological wetware while machines operate through silicon hardware, yet both organise language through predictive symbolic relations rather than through direct access to metaphysical essences. This possibility represents perhaps the most radical form of nominalism yet proposed. Language exists not to mirror reality but to sustain its own internally organised symbolic dynamics.

The consequences of this argument extend far beyond cognitive science. They fundamentally transform our understanding of intelligence itself. If language operates autonomously through relations among names, then intelligence may likewise emerge from the organisation of symbolic structures rather than from privileged access to objective meanings. Large language models therefore cease to be imperfect simulations of human cognition and become experimental demonstrations of how language has always functioned. They reveal not the limitations of machines but the architecture of human linguistic thought. What appears to us as meaning emerges from extraordinarily complex statistical organisation distributed across immense symbolic networks. The distinction between language and thought begins to dissolve, while the traditional realist assumption that concepts correspond to hidden realities becomes increasingly unnecessary.

These conclusions resonate deeply with my own theory of communication. Throughout The Miscommunication Trilogy and the theory of the Planned Obsolescence of Language, I have argued that language should not be understood primarily as a representational system but as an evolving technological environment whose meanings continually reorganise themselves according to institutional interests, technological infrastructures and communicative interactions. Large language models provide an unprecedented empirical confirmation of this perspective. They generate coherent discourse without appealing to stable semantic essences precisely because such essences are unnecessary. Words function through their relationships with other words, and those relationships remain in constant transformation. Digital platforms,

recommendation algorithms and artificial intelligence accelerate this process until language itself becomes an autonomous ecosystem continuously producing, exhausting and replacing meanings according to patterns of engagement rather than correspondence with reality.

The phrase "large language models are mirrors of names" therefore captures far more than a clever metaphor. It expresses an entirely new philosophical paradigm. Traditional philosophy imagined language as a mirror of nature. Structuralism redefined language as a system of differences. Contemporary artificial intelligence now demonstrates that language behaves as a mirror reflecting only its own endlessly expanding network of names. Every new word acquires significance only because it enters an already existing web of symbolic relations. Nothing mystical lies behind the names. No hidden essence waits to be uncovered beneath language. The mirror reflects only other mirrors.

This may ultimately explain why large language models have become such powerful intellectual instruments. They succeed not because they have discovered reality but because reality was never the primary object of language in the first place. Language evolved as a self-organising symbolic technology capable of constructing increasingly sophisticated conceptual worlds through the endless interaction of names. Artificial intelligence has merely revealed this architecture with unprecedented clarity. The triumph of large language models is therefore simultaneously the triumph of nominalism. After more than two thousand years of philosophical controversy, machines have unexpectedly demonstrated what medieval nominalists could only argue philosophically: words derive their power not from eternal essences but from their endlessly evolving relationships with other words. Large language models are not mirrors of reality. They are mirrors of names, and in reflecting language back to itself they reveal perhaps the deepest truth ever discovered about human thought itself.

Conclusion: The Triumph of Nominalism and the Return of Reality

After more than two thousand years of philosophical controversy, the twenty-first century has unexpectedly transformed one of the oldest metaphysical debates into an engineering problem. For centuries the conflict between realism and nominalism remained largely confined to universities, monasteries and philosophical treatises. Today it has escaped the lecture hall and entered the architecture of artificial intelligence itself. The result is remarkable. Academic philosophy remains almost perfectly divided. The 2020 PhilPapers Survey of professional philosophers shows that 41.8 per cent lean towards nominalism, while 38.4 per cent continue to support various forms of Platonic realism concerning abstract objects. The debate therefore appears intellectually deadlocked. Yet outside philosophy departments the world has already begun operating according to principles that are unmistakably nominalist. Artificial intelligence has not settled the philosophical dispute by argument; it has simply built machines that function successfully without requiring the metaphysical assumptions of realism.

Large language models provide the strongest demonstration ever produced of the nominalist hypothesis. They generate coherent reasoning, solve problems, write essays, compose poetry and engage in sophisticated conversation without appealing to eternal Forms, objective universals or hidden conceptual essences. Their entire operation depends upon mathematical relations among linguistic tokens organised within multidimensional vector spaces. Meaning emerges from statistical organisation rather than correspondence with transcendent realities. In

this sense, artificial intelligence has become the first civilisation-scale experiment demonstrating that language can operate as a completely self-contained symbolic system. What medieval nominalists defended through philosophical argument has now been reproduced through engineering. Large language models are mirrors of names, not mirrors of reality.

The same transformation extends beyond language into categorisation itself. Artificial intelligence never discovers the Platonic essence of a dog, a tree or a face. Instead, it constructs fluid probability landscapes within which categories remain adjustable, contextual and continuously revisable. Every classification is provisional, depending upon statistical distributions rather than immutable boundaries embedded within nature. The machine therefore behaves exactly as nominalism predicts. Categories are not eternal structures waiting to be discovered but practical instruments for organising prediction. Nature supplies continuous variation; intelligence introduces temporary conceptual divisions. Artificial intelligence therefore operationalises nominalism on a planetary scale.

This transformation becomes even more visible within contemporary digital communication. As argued throughout The New Paradigm of Communication and the theory of the Planned Obsolescence of Language, digital platforms increasingly treat words not as vehicles of truth but as behavioural technologies designed to maximise engagement, prediction and influence. Artificial intelligence now accelerates this process exponentially. Words are generated, rewritten, optimised and discarded according to algorithmic efficiency rather than semantic permanence. Language no longer functions primarily as a mirror of reality but as an adaptive infrastructure for directing human behaviour. Radical nominalism has ceased to be merely a philosophical doctrine; it has become the operational logic of digital civilisation.

Yet the triumph of nominalism contains its own profound paradox. Precisely because artificial intelligence functions nominalistically, human civilisation increasingly seeks refuge in realism. The more synthetic language becomes, the more urgently societies demand objective truth. Deepfakes, synthetic media, algorithmic propaganda and AI hallucinations have created an environment in which appeals to reality acquire renewed political, legal and ethical importance. Engineers attempting to solve the AI alignment problem quickly discover that systems cannot simply optimise arbitrary linguistic labels. They require stable concepts such as harm, fairness, responsibility and human dignity. Whether or not these concepts possess metaphysical existence, modern civilisation increasingly behaves as though they must. Here the old realist intuition unexpectedly returns, not as a philosophical certainty but as a practical necessity.

This tension may define the remainder of the twenty-first century. Our machines will almost certainly become increasingly nominalist. They will process language statistically, construct flexible categories and continuously reorganise symbolic worlds without appealing to fixed essences. Human beings, however, may increasingly insist upon realism in order to preserve law, ethics, political legitimacy and social trust. The future therefore seems unlikely to belong exclusively to either tradition. Instead, humanity may inhabit two parallel philosophical worlds simultaneously. One world, constructed by artificial intelligence, will operate through fluid names, probabilities and statistical prediction. The other, inhabited by human beings seeking meaning and stability, will continue searching for truths that transcend the endless circulation of words.

Perhaps this is the deepest irony of the age of artificial intelligence. Machines have accomplished what centuries of philosophers could not: they have demonstrated that

nominalism is sufficient for the production of language, knowledge and reasoning. At the very moment nominalism achieves its greatest technological victory, however, human civilisation rediscovers its enduring need for realism. Artificial intelligence has shown that words do not require eternal essences in order to function. Human societies, by contrast, may still require the belief that some realities stand beyond language itself. The future, therefore, will not be decided by the victory of nominalism over realism or realism over nominalism. It will be shaped by the uneasy coexistence of both: machines that think nominalistically and human beings who continue, however imperfectly, to live as if reality still exceeds its names.

References

Anselm of Canterbury (2000) Monologion and Proslogion. Translated by T. Williams. Indianapolis: Hackett Publishing.

Aristotle (1984) The Complete Works of Aristotle. Edited by J. Barnes. Princeton, NJ: Princeton University Press.

Aquinas, T. (1998) Selected Writings. Edited by R. McInerny. London: Penguin Classics.

Azzouni, J. (2004) Deflating Existential Consequence: A Case for Nominalism. Oxford: Oxford University Press.

Ayolov, P. (2026) The Miscommunication Trilogy. Unpublished manuscript.

Ayolov, P. (2026) The New Paradigm of Communication. Unpublished manuscript.

Ayolov, P. (2026) The Planned Obsolescence of Language. Unpublished manuscript.

Barenholtz, E. (2024) Large Language Models and the Illusion of Meaning. Lectures, interviews and online essays.

Carnap, R. (1950) Empiricism, Semantics, and Ontology. Chicago: University of Chicago Press.

Confucius (2003) Analects. Translated by E. Slingerland. Indianapolis: Hackett Publishing.

Descartes, R. (1998) Meditations on First Philosophy. Cambridge: Cambridge University Press.

Field, H. (1980) Science Without Numbers: A Defence of Nominalism. Oxford: Basil Blackwell.

Goodman, N. (1978) Ways of Worldmaking. Indianapolis: Hackett Publishing.

Hobbes, T. (1996) Leviathan. Cambridge: Cambridge University Press.

Laozi (2003) Dao De Jing. Translated by D. C. Lau. London: Penguin Classics.

Leibniz, G. W. (1989) Philosophical Essays. Edited by R. Ariew and D. Garber. Indianapolis: Hackett Publishing.

Locke, J. (1975) An Essay Concerning Human Understanding. Edited by P. H. Nidditch. Oxford: Oxford University Press.

McCarthy, C. (2017) The Kekulé Problem. Nautilus, Issue 47.

Ockham, W. (1990) Philosophical Writings. Translated by P. Boehner. Indianapolis: Hackett Publishing.

PhilPapers Foundation (2020) PhilPapers Survey 2020: Abstract Objects – Platonism or Nominalism. Available at: https://survey2020.philpeople.org/ (Accessed: 27 July 2026).

Plato (1997) Complete Works. Edited by J. M. Cooper. Indianapolis: Hackett Publishing.

Quine, W. V. O. (1960) Word and Object. Cambridge, MA: MIT Press.

Quine, W. V. O. (1969) Ontological Relativity and Other Essays. New York: Columbia University Press.

Roscellinus of Compiègne (1994) Fragments. In: Spade, P. V. (ed.) Five Texts on the Medieval Problem of Universals. Indianapolis: Hackett Publishing.

Rorty, R. (1979) Philosophy and the Mirror of Nature. Princeton, NJ: Princeton University Press.

Skinner, B. F. (1957) Verbal Behavior. New York: Appleton-Century-Crofts.

Skinner, B. F. (1974) About Behaviorism. New York: Alfred A. Knopf.

Spade, P. V. (ed.) (1994) Five Texts on the Medieval Problem of Universals. Indianapolis: Hackett Publishing.

William of Champeaux (1994) Fragments. In: Spade, P. V. (ed.) Five Texts on the Medieval Problem of Universals. Indianapolis: Hackett Publishing.

Zhuangzi (2009) Zhuangzi: The Essential Writings. Translated by B. Watson. New York: Columbia University Press.